The Force Field of the Bullet Curtain

An (Unusual) Archaeology of Danmu

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Marshall McLuhan once famously said: "the 'content' of any medium is always another medium."[1] Like many "McLuhanisms," the argument was meant to be polemical, meant to challenge the long-standing content-centric approach in studying media forms, arguing for a conceptual and methodological shift toward studying the organizations and patterns of media technologies. But the side effect of this radical argument is to render these two entities--content and medium--virtually indistinguishable. For McLuhan, the "content" is nothing but a media condition. This conflation between content and medium, however, masks a key problem, which is the confrontation between the two notions. In fact, some of the most productive, and sometime troublesome, puzzles in media studies often center on the complex relations between the two rather than their supposed equivalency, especially when we are dealing with the expansive and ever-changing transmedia systems known as the "media mix," which operate precisely on the shifting boundaries and intersections between media and contents.

An illuminating case in question for thinking through these problems in the context of the media mix is *danmaku*, or *danmu* (弹幕) as it is called in China. Danmaku is a digital interface originally designed by the Japanese video-sharing platform Niconico to render user comments flying over videos on screen. Danmu was later widely adopted in China in various media contexts such as video-streaming platforms, social media, television, and theatrical cinema (Figure 1). As I have argued elsewhere, it quickly became a prominent device that intermediates among different media forms, contents, and users in regional media mix systems that have largely been platformed in East Asia.[2] As a crucial nexus for organizing the transnational, transmedial systems on digital platforms, danmu also began to draw growing academic interest from diverse fields ranging from culture and media studies to communication studies to area studies.

Situated between video contents and platform connectivity, danmu has been taken as a default interface intermediating the troublesome relationship between content and medium in both the operations and the studies of media mix, along with the troublesome term *platform* that is sometimes used as a substitute for media.[3] There thus emerges a key question: what exactly is danmu? Is it the content of the medium, that is, the user comments generated on the video-streaming platforms? Or, is it the medium of the content, that is, the interface that represents and organizes the user comments? The fact that danmu is also called "comment" (コメン) in Japan further complicates the question. Is it the interface or the content of that interface or something in-between? This ambivalence between content and medium is manifested by the two diverging methodological approaches in the increasing number of studies of danmu. One approach focuses on the textual, paratextual, and intertextual elements of danmu comments as digital contents of a certain sort, which are often analyzed as a form of writing, translation, subtitles, or online chats, as seen in the works of Daniel Johnson, Yizhou Xu, and Yuhong Yang.[4] The other takes danmu's media function as its center of gravity and focuses on its interface effect and affect, such as its intermediation between social communication and video streaming, in organizing and managing media mix systems, as seen in the works of Jinying Li, Marc Steinberg, and Xuenan Cao.[5] This methodological division may be somewhat correlated with the disciplinary and regional cultural differences (e.g., literary studies vs. media studies, China vs. Japan), as the transnational spread of the media mix model, which decenters

Figure 1. The *danmu* interface on the Chinese video streaming platform Bilibili.

its geography from Japan to broader East Asian territories, associates danmu with transcultural, translingual practices such as translation and subtitling in non-Japanese contexts. But the foundation of danmu's ambivalent status is deeply rooted in one of the central problems not only in the logics and operations of media mix but also in media studies broadly. What exactly is the distinction between medium and content? How are they related to each other? The methodological confusion regarding danmu—to study it as a textual content or as a media interface—is merely the latest manifestation of a long-existing problem at the very foundation of media mix, whose assumption that media can "mix" is based on the pretense that medium and content are one and the same, a problematic equation that was prescribed but obscured by McLuhan's above-quoted famous saying.

In what follows, I try to tackle this fundamental problem of the content-medium relationship in media mix by interrogating the meanings and functions of danmu, a key mechanism in media mix systems to manage this problematic relationship on platforms. I do so here in order to signal ongoing theoretical issues—methodological and otherwise—raised by the media mix. By briefly tracing the archaeology of danmu, I call for a theoretical rethinking of *media mix* through an archaeological inquiry, whereby the material and conceptual developments of what we know as "media" cannot be easily "mixed" with the so-called content. However, unlike the conventional approaches in media archaeology that often centers on technological developments, my approach rather focuses on the conceptual development of the metaphorical notion, danmu. I examine the logographic configuration and transformation of the Chinese characters (*kanji* in Japanese) in the word, 弾 (*dan*) and 幕 (*mu*), as a pictorial-symbolic representation of the material history of media development. In other words, I take the etymology of the concept as the basis for an archaeology of the medium. What results is a methodological experiment that may shed new lights to the hidden overlaps between the discursive and the material in media history, because these crucial overlaps are also the dynamic intersections where contents meet media.

Etymology as Archaeology:
Between the Curtain (幕) and the Bullets (弾)

To understand what danmu really is, let us begin with where the term comes from and what it means. It is originally a Japanese term, written in kanji

(Chinese characters) and translated as "bullet curtain," to describe the type of shoot-'em-up games in which the bombarding bullets cover the entire screen (Figure 2). The kanji phrase "bullet curtain," or "弾幕," was then borrowed to describe the interface effect of the over-the-video comments that resemble a barrage of bullets flying across the screen on platforms such as Niconico in Japan and Bilibili in China. It is a metaphorical concept that characterizes a combinatory *dispositif*, as in Jean-Louis Baudry's reinterpretation of Foucault's concept of dispositif in which a media system can be characterized as both a discursive formation and a material assemblage.[6] The danmu dispositif has two basic elements, corresponding with the two Chinese characters in the word: 幕 (*mu*), the curtain, as the primary media condition, and 弾 (*dan*), the bullets, as the content of the medium. The configuration and function of danmu thus can be examined and understood through the relationship between the curtain (幕) and the bullets (弾) in the formation of this dispositif.

Let's begin with 幕 (*mu*), the curtain. The Chinese character 幕, in its ancient form in the pre-Qin period (220 BC and earlier), has a strong pictographic tendency: it represents the structure of a tent made of curtains (Figure 3). The character then developed into a logogram with two components: the lower
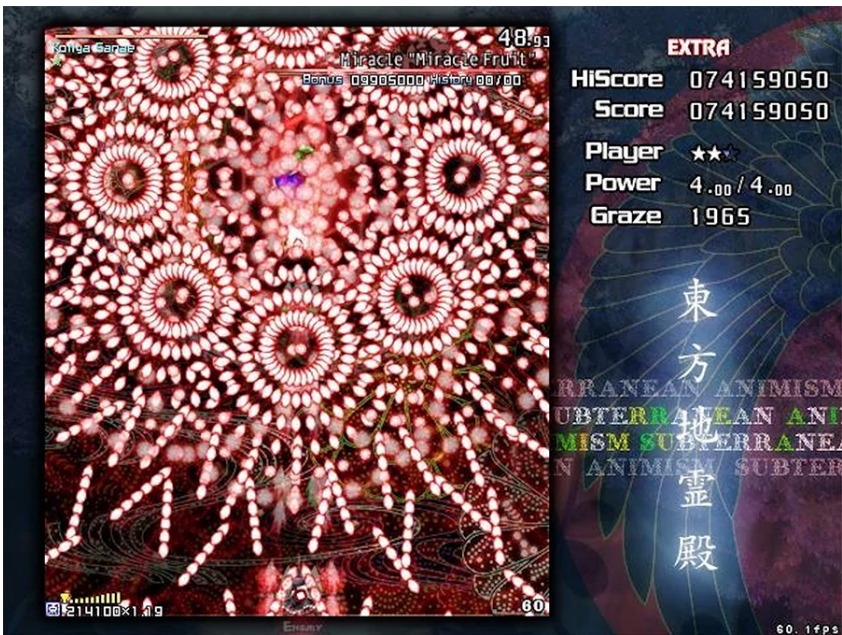

Figure 2. The screen capture of a *danmaku* game, *Touhou Project* (Team Shanghai Alice).
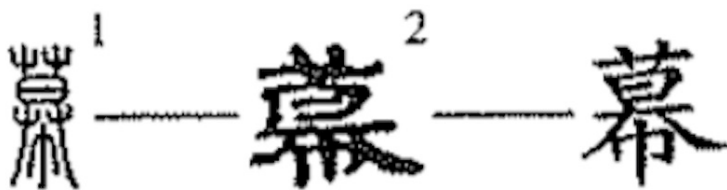
Figure 3. The logographic formation and transformation of the Chinese character 幕 (*mu*). Image source: Xueqin Li, ed., *Zi Yuan* (*The Origin of Chinese Characters*) (Tianjin Ancient Works Publishing, 2013), 690.

part, 巾 (*jin*), is an pictogram referring to fabrics; the upper part, 莫 (*mo*), is both phonetic and ideographic, indicating the meaning of the word as something that covers.[7] The combinatory character 幕 simply means "the covering fabric on top (帷在上曰幕)," as it is defined by the ancient dictionary, *Shuowen Jiezi*, in the Han dynasty (100 AD).[8] Often referring to a curtain, a tent, or a veil, 幕 is a spatial device: it is a layer of structure that covers and blocks a space. Its function of covering and blockage makes 幕 a metaphorical sign for concealment and obscurity, such as its usage in the words 幕府 (*mufu*) or 幕僚 (*muliao*), which refer to military and political powers hidden from public views. It is also its function to cover and block that makes 幕 a prominent device in modern media systems when it was introduced to theaters as a curtain over the stage. As a media device, 幕 is the curtain that covers the screen (referred to as 屏 [*ping*] in Chinese). The association between 屏 (the screen) and 幕 (the covering curtain) in such settings led to the formation of the concept 屏幕 (*pingmu*) that emerged in the twentieth century to describe optical screens in modern media.[9] By and large, 幕 (*mu*), as either a media device or a metaphorical concept, is always tied to its logographic form and meaning that are defined as a spatial structure that covers. Even as an integrated element in modern screens (as in 屏幕), 幕 (*mu*), in its primary media function, is not so much to display or represent as it is to block and obscure.

If 幕 (*mu*) is a medium of blockage rather than representation, what does that make 弹幕 (*danmu*)? Can we describe danmu as a form or a representation of content when its primary function, as a metaphorical curtain, is precisely to block and obscure the very content as such? But if not content, what are those words and sentences written on danmu? What are the functions of the textual elements on a blocking curtain? In fact, a curtain almost always has woven patterns or images on it. But their function is less representational than

structural: they serve as a technical means to distinguish between front and back, between inside and outside. This structural function of making distinctions recalls the famous theory by German architect Gottfried Semper about the shared origin between *wand* (wall) and *gewand* (garment) in German. The textile patterns of the garment, according to Semper, are the structural precursors of the wall, as they serve to distinguish "the *inner life* separated from the *outer life*."¹⁰ Therefore, the curtain, which is simultaneously a textile garment and a blocking wall, is the medium *par excellence* of making structural and ontological division and distinction. As Bernhard Siegert argued, "the curtain is the medium of an operational ontology, which brings to light the reason for its existence."¹¹

If danmu is to be understood as a metaphorical curtain, what is its "operational ontology" (to borrow Siegert), "the reason for its existence"? Like the textile patterns on a curtain, the textual comments on danmu serve as a technical means to divert our gaze away from what is behind the curtain, that is, the video content on screen. The reason for danmu's existence is thus to divide, an ontological shield between the diegetic and the nondiegetic, between the cinematic gaze and the cybernetic operation, between the content and the platform. Therefore, the danmu comments cannot be merely understood as textual or paratextual content, because this misunderstanding conflates the curtain with the screen. The curtain (*danmu*) is the cover that blocks the screen (the video) but is not the screen itself. For the same reason, I argue against interpreting danmu comments as onscreen translations or subtitles, because to equate danmu with subtitles is to ignore the perverse logics of both: the desire for transparency and seamlessness on the part of subtitles and the gesture of distancing and distraction on the part of danmu. The ultimate goal of subtitles is to be a transparent, integral part of the video on screen, but the logic of danmu is precisely the opposite, because it is, after all, a curtain, whose primary function is to cover, block, and obscure.

The function of danmu as a system of blockage is further underlined by the element of 弹 (*dan*), the bullets. The ancient origin of the Chinese character 弹, as it was recorded in the oracle bone script, is the pictographic representation of an opening bow with a pulled string that is about to shoot a bullet (Figure 4). The emphasis is less the bow or the bullet than the action and the force of shooting. The character later developed into a logogram with two components: the left part, 弓 (*gong*), is an pictogram referring to a bow; the right part, 单 (*dan*), is primarily phonetic but with pictographic and ideographic elements, which characterizes shooting a slingshot with a

pronunciation (*dan*) that echoes the sound of a strike (Figure 5). The combinatory character 弹 thus describes, in graphic and sonic means, a forceful process, an act of shooting. As defined by *Guangyun*, a Chinese dictionary in the Song Dynasty (1008 AD), "*dan* means to shoot (弹, 射也)."[12] It characterizes a weaponry system whose focus is not so much the object of the weapon (the bullets) as it is the action of an instant strike (shooting the bullets). As such, 弹 (*dan*) is what Cornelia Vismann called the "medium verb form," because it describes "what media do, what they produce, and what kinds of actions they prompt" and is thus "standing in for verbs."[13]

Figure 4. The logographic formation and transformation of the Chinese character 弹 (*dan*). Image source: Xueqin Li, ed., *Zi Yuan* (*The Origin of Chinese Characters*) (Tianjin Ancient Works Publishing, 2013), 1126.
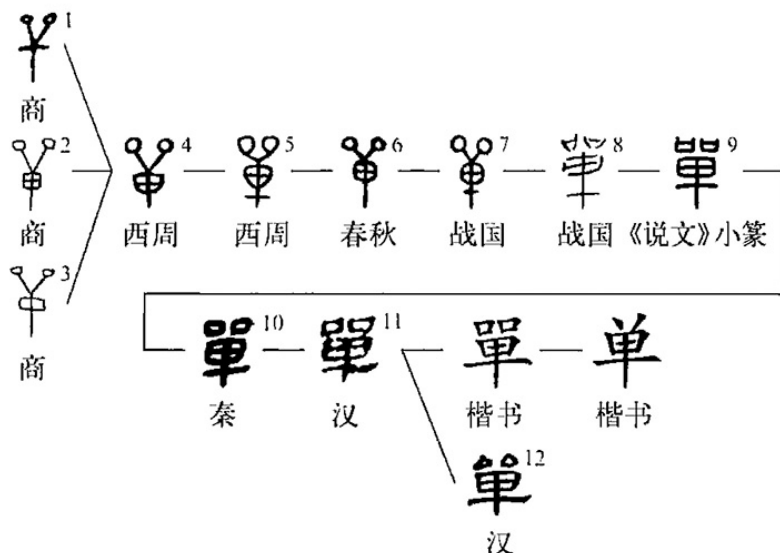

Figure 5. The logographic formation and transformation of the Chinese character 单 (*dan*). Image source: Xueqin Li, ed., *Zi Yuan* (*The Origin of Chinese Characters*) (Tianjin Ancient Works Publishing, 2013), 101.

In the danmu *dispostif*, dan refers to the on-screen comment feeds what appear like flying bullets. But if dan is the "medium verb form" that describes more an action than an object, what does it tell us about the danmu comments? It first raises the question of whether or not those over-the-video comments, the metaphorical "bullets," are actually meant to be read. They simply fly too fast! Bullet time, indeed. The interface organizes the comments in such a way—fast flying, overlapping, and covering the entire screen—that they don't seem to be presented for close reading. After all, bullets are not to be gazed upon, but to be feared. Since the meaning of dan characterizes the action of an instant strike, the function of the danmu comments is to generate the physical and psychological impacts of that strike. They are more affective than discursive. Those "bullet comments" are blasted by the danmu interface to make the viewers *feel* their power, speed, and overwhelming presence. Thus, as I have argued elsewhere, digital platforms shift the center of gravity in media mix systems from discursive contents to affective modules.[14] They constitute a technical structure of feeling rather than a textual content for reading, because they are the metaphorical bullets whose meaning is about an action, a force. Even though some viewers do read the danmu comments, such activities require additional efforts: one often has to pause the video in order to read the comments because they fly too fast to be read at full speed. The reading is thus to be conducted *against* the interface affordance of danmu rather than with it, because the logic of this interface design is fundamentally against reading. The force of the bullets is to be *felt*, not to be *read*.

Danmu as a Force Field

The above etymological analysis argues against taking danmu comments merely as textual contents for reading and instead asks us to examine the production, organization, and reception of danmu comments as powerful forces. It also calls for a methodological reconsideration of media mix, shifting from how it franchises content to how it generates and organizes forces. Consequently, it is more productive to study the affective economy of the media mix (e.g., para-sociality, movements, and conflicts) than to analyze its textual meanings. Furthermore, the meaning of mu as a curtain that covers suggests we should interrogate danmu as a media interface of blockage rather than representation. It calls for examinations of how danmu blocks, disrupts, and interferes with the video content rather than how it represents it. Since

danmu is the curtain that blocks the view, it should be understood as an inter-fering signal instead of a paratextual element (e.g., translation or subtitles). The curtain metaphor also underlines danmu's peculiar relationship with the screen, which is often metaphorically described as a "window."[15] As a cur-tain that covers the window, the danmu interface points to the fundamental contradiction and incoherence between medium and content in the media mix. As a medium of blockage, the content of the "bullet-curtain" is *absence*, because it denies the very existence and access of content as such.

How to understand such incoherence between medium and content? If the only content of danmu is absence, then the overt obsession with content in the media mix industry—cue the famous motto "content is king"—seems to be nothing but a fetishistic trap to disavow the lack or insignificance of content in the systems. We are so distracted by the fetishistic logic of danmu in the form of its baffling ambivalence (e.g., is it the content or the interface of content?) that we forget that platforms have already moved away from meaningful content and toward informatic contact for sustaining data flow. The bombarding bullet curtain is delivered to us not as a content but as a façade, a fetishistic perversion that serves to conceal and to attach us to the very absence of content in the platform systems of media mix.

How to avoid falling for this fetishistic trap? I propose to examine danmu as neither a content nor a medium but rather, in rethinking this bullet-curtain *dispostif*, a structure of blockage (*mu*) with instant strikes (*dan*), as a powerful force field. In physics, a force field is a vector field acting upon the particles with noncontact forces so that its position and direction can be felt. This sci-entific concept is adopted in structural biology as a mathematical method for modeling protein structures by estimating the forces between atoms and molecules to calculate the potential energy of the system.[16] If we consider danmu as a force field, then it is neither a textual content to be represented nor a mediating vessel to deliver content. Instead, it is a complex structure with potential energy that acts upon platform users with powerful forces from various positions and directions, that is, a blocking curtain that affect you with the strike of bullets. Like the force field in biology that organizes protein structures with forces and energy, danmu as a force field organizes the media mix system through: (1) the bonding forces with and among the users; (2) the nonbonding forces with and against the video content; and (3) the potential energy of users' affective feelings.

In fact, force and energy are the two key words that are frequently high-lighted by the user community to characterize the experience of danmu. For
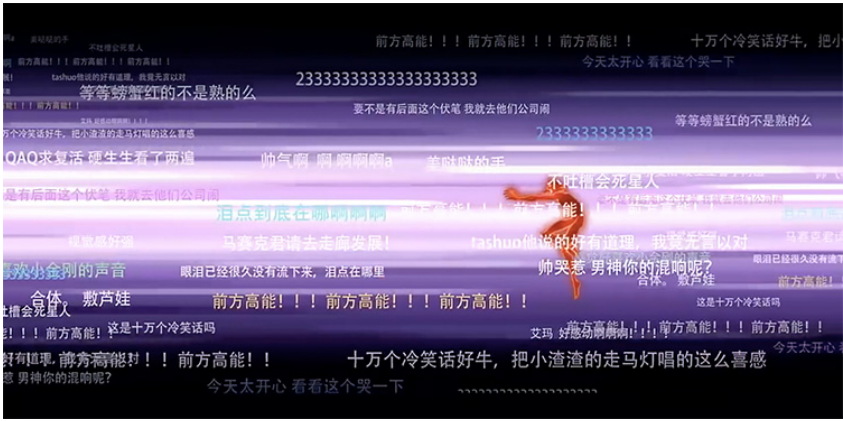
Figure 6. The appearance of *danmu* as a diegetic element in the animation feature film *One Hundred Thousand Bad Jokes* (2014). Note: this fictional danmu contains and highlights the popular phrase "high energy ahead!" (前方高能!).

instance, the video segments that are covered with a high density of danmu comment feeds are often described as "high energy" (高能 *gaoneng*), and one of the most popular danmu comments on Chinese video platforms is "high energy ahead (前方高能)," which is to warn viewers that the next video segment will contain an overwhelming amount of "bullet comments." This "high energy" of danmu is imagined as the source of a powerful force. In the Chinese animation film, *One Hundred Thousand Bad Jokes* (2014), danmu is no longer an interface but becomes a diegetic element in the fictional universe: at the film's climax, the hero unleashes a barrage of danmu (like actual bullets) as a deadly force to strike down the enemy (Figure 6).[17] Associating danmu with force and energy, users often describe the extreme instances when the videos are covered by too many danmu comments as "brutal" (凶残 *xiongcan*), which recalls the origin of the concept as a type of violent shooter game. After all, the force field of the bullet curtain is a violent one.

In conclusion, I want to argue for a methodological shift in our approach to the media mix from the content-medium debate toward the force-energy mechanism, a shift that also calls for a theoretical model to *rethink media formations as force fields*. As Thomas Lamarre reminds us, the ecology of media mix is structured through the bifurcation between the distributive and the totalizing forces, and the tension between them generates and potentializes a field that is experienced affectively.[18] To study the media mix as a force field, therefore, is to examine how the system, like a complex protein structure, is

folded and unfolded with actions, forces, and energy that insinuate tendencies and limits, as well as how such forces and energy are felt by different users in various geocultural settings. The numerous unique features of danmu, for example, can be examined as constitutive elements of the force field. These elements include both attractive forces that enable participation, such as the anonymity of commenters, the rewarding effects of virtual liveness and pseudo-simultaneity that are generated by seeing comments by oneself and others appear instantly on a video, and the sense of immersive community created by danmaku, as well as repulsive forces that block participation, such as the visual density of the text and the rapid, fleeting speed at which comments fly past, the temporal disjunctions created by the layering of older comments and newer responses, and the incoherence between platform and content discussed above. Table 1 summarizes these elements and illustrates how they create what I have termed in a previous work the "interface affect."[19]

Table 1. *Danmu* as a force field

ATTRACTIVE FORCES	REPULSIVE FORCES
anonymousness	visual blockage
virtual liveness	fleeting speed
pseudo-simultaneity	temporal disjunctions
immersive community	incoherence between the content and the platform
POTENTIAL ENERGY: THE INTERFACE AFFECT	

The anonymity of the comment feeds, on one hand, creates an identifiable and immersive environment for a user community, and so does the pseudo-simultaneity in the temporal structure of danmu's virtual liveness. Both generate attractive forces that bond the viewers with the platform as well as among the viewers themselves. On the other hand, the blocking effects of danmu (the "curtain") versus a transparent vision of the video (the "window") generate repulsive forces that polarize the interface as a contact zone of incoherence between the platform and the content. The bonding, attractive forces and the polarizing, repulsive forces clash and interact with each other, forming a powerful force field whose potential energy is felt as

the affective experience. Such is how a media mix is constituted: not by the supposed content-medium equation in a "mixing" media convergence, but by the dynamic force-energy reaction in an affective force field.

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Notes

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